

EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	1	10/586826	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/11/15 17:05
L2	36	oxirane and carbonylation and lactone	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/11/15 18:25
L3	483	carbonylation and epoxide	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/11/15 19:29
L4	446	carbonylation and epoxide and catalyst	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/11/15 17:11
L5	146	carbonylation and epoxide and catalyst and lactone	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/11/15 18:24
L6	671	549/263 549/328 556/27 502/161	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/11/15 18:25
L7	7	I6 and oxirane and carbonylation and lactone	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/11/15 18:25

EAST Search History

L8	26	I6 and carbonylation and lactone	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/11/15 18:41
L9	3	I8 and oxazoline	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/11/15 18:41
L10	15	I6 and carbonylation and epoxide	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/11/15 19:44
L11	3	"6852865"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/11/15 19:45

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NEWS 4 JUL 02 CHEMCATS accession numbers revised
NEWS 5 JUL 02 CA/CAplus enhanced with utility model patents from China
NEWS 6 JUL 16 CAplus enhanced with French and German abstracts
NEWS 7 JUL 18 CA/CAplus patent coverage enhanced
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NEWS 9 JUL 30 USGENE now available on STN
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NEWS 15 AUG 27 USPATOLD now available on STN
NEWS 16 AUG 28 CAS REGISTRY enhanced with additional experimental spectral property data
NEWS 17 SEP 07 STN AnaVist, Version 2.0, now available with Derwent World Patents Index
NEWS 18 SEP 13 FORIS renamed to SOFIS
NEWS 19 SEP 13 INPADOCDB enhanced with monthly SDI frequency
NEWS 20 SEP 17 CA/CAplus enhanced with printed CA page images from 1967-1998
NEWS 21 SEP 17 CAplus coverage extended to include traditional medicine patents
NEWS 22 SEP 24 EMBASE, EMBAL, and LEMBASE reloaded with enhancements
NEWS 23 OCT 02 CA/CAplus enhanced with pre-1907 records from Chemisches Zentralblatt
NEWS 24 OCT 19 BEILSTEIN updated with new compounds
NEWS 25 NOV 15 Derwent Indian patent publication number format enhanced

NEWS EXPRESS 19 SEPTEMBER 2007: CURRENT WINDOWS VERSION IS V8.2,
CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP),
AND CURRENT DISCOVER FILE IS DATED 19 SEPTEMBER 2007.

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FILE COVERS 1907 - 15 Nov 2007 VOL 147 ISS 21
FILE LAST UPDATED: 14 Nov 2007 (20071114/ED)

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<http://www.cas.org/infopolicy.html>

=> s carbonylation and (catalytic or catalyst) and (epoxide or oxirane) and lactone
12211 CARBONYLATION
202 CARBONYLATIONS
12248 CARBONYLATION
(CARBONYLATION OR CARBONYLATIONS)
440071 CATALYTIC
6 CATALYTICS
440075 CATALYTIC
(CATALYTIC OR CATALYTICS)
781860 CATALYST
779218 CATALYSTS
999850 CATALYST
(CATALYST OR CATALYSTS)
50488 EPOXIDE
29116 EPOXIDES
65704 EPOXIDE
(EPOXIDE OR EPOXIDES)
19662 OXIRANE
2791 OXIRANES
20602 OXIRANE
(OXIRANE OR OXIRANES)
60367 LACTONE
28333 LACTONES
72199 LACTONE
(LACTONE OR LACTONES)
L1 45 CARBONYLATION AND (CATALYTIC OR CATALYST) AND (EPOXIDE OR OXIRANE) AND LACTONE
=> s 11 and "transition metal"
1012684 "TRANSITION"
268061 "TRANSITIONS"

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1127567 "TRANSITION"
          ("TRANSITION" OR "TRANSITIONS")
1787683 "METAL"
892142 "METALS"
2162601 "METAL"
          ("METAL" OR "METALS")
190089 "TRANSITION METAL"
          ("TRANSITION" (W) "METAL")
L2           7 L1 AND "TRANSITION METAL"

=> s l1 and chiral
    119479 CHIRAL
    17 CHIRALS
    119483 CHIRAL
          (CHIRAL OR CHIRALS)
L3           8 L1 AND CHIRAL

=> s l2 and l3
L4           3 L2 AND L3

=> s l2 or l3
L5           12 L2 OR L3

=> d 15 1-21 abs ibib hitstr
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L5 ANSWER 1 OF 12 CAPLUS COPYRIGHT 2007 ACS on STN
 AB The use of mechanistic information to develop a new, catalytic multicomponent reaction is described. The complex $\{(\text{saliph})\text{Al}(\text{THF})_2\} + [\text{Co}(\text{CO})_4]$ - (I, saliph = N,N'-o-phenylenabis(3,5-di-*tert*-butylsalicylideneimine), THF = tetrahydrofuran), which is known to carbonylate epoxides, aziridines, and β -lactones, was used to catalyze the synthesis of 1,3-oxazinane-2,4-diones from epoxides, isocyanates, and CO. Under optimized conditions, the reaction was both selective and high-yielding. 1,3-Oxazinane-2,4-diones were synthesized from a variety of epoxides and isocyanates, including some epoxides that do not undergo simple ring-expansion carbonylation. The best results were obtained using highly electrophilic isocyanates. The mechanism of the multicomponent reaction was investigated using labeling and stereochemistry, and the data obtained were consistent with the I-catalyzed formation of β -lactone and 1,3-oxazinane-2,4-dione from a common intermediate.

ACCESSION NUMBER: 2007:629318 CAPLUS
 DOCUMENT NUMBER: 147:235098
 TITLE: A New Multicomponent Reaction Catalyzed by a [Lewis Acid]-[Co(CO)4]- Catalyst: Stereospecific Synthesis of 1,3-Oxazinane-2,4-diones from Epoxides, Isocyanates, and CO
 AUTHOR(S): Church, Tamara L.; Byrne, Christopher M.; Lobkovsky, Emil B.; Coates, Geoffrey W.
 CORPORATE SOURCE: Department of Chemistry and Chemical Biology, Baker Laboratory, Cornell University, Ithaca, NY, 14853-1301, USA
 SOURCE: Journal of the American Chemical Society (2007), 129(26), 8156-8162
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 147:235098
 REFERENCE COUNT: 75 THERE ARE 75 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 2 OF 12 CAPLUS COPYRIGHT 2007 ACS on STN
 AB A review of online ATR-IR spectroscopy as a powerful anal. tool for the elucidation of reaction mechanisms is presented. Recent studies have focused on the examination of the Co catalyzed carbonylation reaction of epoxides to lactones, which are attractive substrates for further applications. One interesting conversion is the ring opening polymerization (ROP) to form aliphatic polyesters such as poly(3-hydroxybutyrate) (PHB). This type of polymer is also produced naturally by microorganisms. They are known to be biodegradable as well as biocompatible and offer excellent mech. properties. However, due to the higher expense associated with biotechnol. processes, studies on cost-effective synthetic routes using cheap and easily available industrial monomers are of great interest. ATR-IR spectroscopy was used to monitor the carbonylation of epoxides. This method provides direct observation of the active and intermediary species formed in the autoclave. It was shown, that besides the known two-step reaction to aliphatic polyesters via a lactone intermediate, a novel route, the direct alternating copolymer of epoxides and CO to form polyester is also feasible. This new reaction combines an epoxide catalyzed CO insertion step.

ACCESSION NUMBER: 2006:801389 CAPLUS
 DOCUMENT NUMBER: 146:184513
 TITLE: Online ATR-IR spectroscopy: mechanistic studies of catalytic reactions under high-pressure
 AUTHOR(S): Zintl, Manuela; Hearn, Andrew K.; Rieger, Bernhard Ulm,
 CORPORATE SOURCE: Division for Materials & Catalysis, University of Ulm, D-89069, Germany
 SOURCE: Leading Edge Organometallic Chemistry Research (2006), 75-92. Editor(s): Cato, Martin A. Nova Science Publishers, Inc.: Hauppauge, N. Y.
 DOCUMENT TYPE: Conference
 LANGUAGE: English
 REFERENCE COUNT: 64 THERE ARE 64 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 3 OF 12 CAPLUS COPYRIGHT 2007 ACS on STN
 AB The invention relates to a method for producing enantiomer-enriched lactones by carbonylating lactones (e.g., β -butyrolactone) into anhydrides (e.g., (S)-methylsuccinic anhydride) in the presence of a chiral catalyst system containing:
 (A) at least one carbonylation catalyst A comprised of neutral or anionic transition metal complexes of metals Re, Co, Ru, Rh, Ir, Fe, Ni, Mn, Ho, W, or their mixts.; and (B) at least one chiral Lewis acid B comprised of compds. of metals Mg, Ca, Sc, Y, a rare-earth element, Ti, V, Cr, Mn, Fe, Co, Ni, Cu, Zn, Al, Ga, Sr, Nb, Mo, Ru, Rh, Pd, Ag, Cd, In, Hf, Ta, W, Re, Os, Ir, Pt, Au, Hg.

Tl, and Pb, the compds. in the reaction conditions of the carbonylation existing in a coordinatively undrstd. manner. The enantiomer-enriched lactones are then prepared by the catalytic decarbonylation of the chiral anhydrides.

ACCESSION NUMBER: 2006:544522 CAPLUS
 DOCUMENT NUMBER: 145:45926

TITLE: Stereoselective catalytic carbonylation method used in the production of enantiomer-enriched lactones
 INVENTOR(S): Preisshuber-Pfluegl, Peter; Molnar, Ferenc; Luinstra, Gert
 PATENT ASSIGNEE(S): Basf A.-G., Germany
 SOURCE: PCT Int. Appl., 21 pp.
 CODEN: PIIXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|--|------|-----------------------|-----------------|----------|
| WO 2006059660 | A2 | 20060608 | WO 2005-EPI2677 | 20051128 |
| WO 2006059661 | A3 | 20060928 | | |
| W: | | | | |
| CN, AG, AL, AM, AT, AU, A2, BA, BB, BG, BR, BM, BY, BZ, CA, CH, CN, CO, CR, CU, CS, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, ID, IL, IN, IS, JP, KB, KG, KM, KN, KP, KR, KS, LC, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MW, MX, MS, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZN | | | | |
| RW: | | | | |
| AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, TZ, UD, ZW, AM, AE, BY, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AE, BY, KG, KZ, MD, RU, TJ, TM | | | | |
| PRIORITY APPLN. INFO.: | | DE 2004-102004057875A | 20041130 | |

OTHER SOURCE(S): CASREACT 145:45926

L5 ANSWER 4 OF 12 CAPLUS COPYRIGHT 2007 ACS on STN
 AB Optically active β -lactones are produced by carbonylation of oxiranes in the presence of a catalyst comprised of: (a) at least one carbonylation catalyst composed of neutral or anionic transition metal complexes of metals of groups 5 to 11 of the periodic table; (b) at least one metal compound of general formula $M_{2-4}R_{n-x}$, in which: M represents an element of group 2, 3, 4, 12, 13; R represents hydrogen or a hydrocarbon radical that can be substituted both on the carbon atom bound to M as well as on the carbon atoms; X represents an anion; n is a number ranging from 0 to 4;

n, and (c) at least one organic, chiral compound having fewer than 4 coordination sites. In a typical example oxirane was carbonylated with CO in the presence of $\text{NaCo}(\text{CO})_4$, Me_2AlCl and 2-(2'-methylenebis([4R,5S]-5-diphenyl)-2-oxazoline to give β -butyrolactone at ca 1.6%.

ACCESSION NUMBER: 2005:673283 CAPLUS
 DOCUMENT NUMBER: 143:155303
 TITLE: Catalyst for the carbonylation of oxiranes
 INVENTOR(S): Ferenc, Molnar; Preisshuber-Pfluegl, Peter
 PATENT ASSIGNEE(S): BASF Aktiengesellschaft, Germany
 SOURCE: PCT Int. Appl., 25 pp.
 CODEN: PIIXD2

DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|--|------|----------|-----------------------|------------|
| WO 2005058449 | A1 | 20050728 | WO 2005-EP534 | 20050120 |
| W: | | | | |
| AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BM, BY, BZ, CA, CH, CN, CO, CR, CU, CS, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, ID, IL, IN, IS, JP, KE, KG, KP, KR, KE, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, NY, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZN | | | | |
| RW: | | | | |
| BW, CH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CG, CI, CM, GA, GN, GW, ML, MR, NE, TZ, UD, ZW, AM, AE, BY, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AE, BY, KG, KZ, MD, RU, TJ, TM | | | | |
| DE 102004002875 | A1 | 20051006 | DE 2004-102004002875 | 20040120 |
| US 2007161806 | A1 | 20070712 | US 2006-586826 | 20060808 |
| PRIORITY APPLN. INFO.: | | | DE 2004-102004002875A | 20040120 |
| | | | WO 2005-EP534 | W 20050120 |

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 5 OF 12 CAPLUS COPYRIGHT 2007 ACS on STN

AB Enantiomer-enriched mixts. of 4-member-ring lactones, used for the manufacture of biodegradable polyesters, were manufactured by catalytic carbonylation of racemic oxiranes in the presence of catalyst system comprising (a) neutral or anionic transition metal complex of a group V-XI metal, and (b) a chiral Lewis acid, with a proviso. For example, a solution prepared by adding 0.39 mmol (1R,2R)-[1-(2-cyclohexanediamino-N,N'-bis(3,5-di-t-butylallylidene))chromium(III) chloride to a cooled (0°) mixture of 0.39 mmol Na[Co(CO)₄] and 8 mL racemic propylene oxide under Ar was pressurized with 60-65 bar CO in an autoclave and the reaction carried out for 1/2 h at 52° to give 25% conversion of propylene oxide into R-butyrolactone comprising 81 enantiomeric excess of S-β-butyrolactone. This (2.0 g) was kept for 1 wk at ambient temperature with 10.4 mg tetrahexylammonium acetate to give 369 mg poly(hydroxybutyrate).

ACCESSION NUMBER: 2004:117167 CAPLUS

DOCUMENT NUMBER: 140:164342

TITLE: Catalyst and procedure for carbonylation of oxiranes to lactones

INVENTOR(S): Luijstra, Gerrit; Rieger, Bernhard; Allmendinger, Markus

PATENT ASSIGNEE(S): BASF AG, Germany

SOURCE: Ger. Offen., 8 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|------|----------|------------------|------------|
| DE 10235316 | A1 | 20040212 | DE 2002-10235316 | 20020801 |
| WO 2004012861 | A1 | 20040212 | WO 2003-EPB478 | 20030731 |
| W: JP, US
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR | | | | |
| EP 1558385 | A1 | 20050803 | EP 2003-766379 | 20030731 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, SK | | | | |
| JP 2006500338 | T | 20060105 | JP 2004-525399 | 20030731 |
| US 2005240032 | A1 | 20051027 | US 2005-523264 | 20050307 |
| US 7145022 | B2 | 20061205 | | |
| PRIORITY APPLN. INFO.: | | | DE 2002-10235316 | A 20020801 |
| | | | WO 2003-EPB478 | W 20030731 |

OTHER SOURCE(S): MARPAT 140:164342

L5 ANSWER 6 OF 12 CAPLUS COPYRIGHT 2007 ACS on STN

AB Epoxides, aziridines, thiranes, oxetanes, lactones, lactams and analogous compds. are reacted with carbon monoxide in the presence of a catalytically effective amount of catalyst having the general formula [Lewis acid]_z+[OM(CO)_w-]_y (Q is any ligand and need not be present, M is a transition metal selected from the group consisting of Groups 4, 5, 6, 7, 8, 9 and 10 of the periodic table of elements, z is the valence of the Lewis acid and ranges from 1 to 6, w is the charge of the metal carbonyl and ranges from 1 to 4 and y is a number such that w times y equals z, and x is a number such as to provide a stable anionic metal carbonyl for [OM(CO)_x]_{w-y} and ranges from 1 to 9 and typically from 1 to 4) to give carbonylation products which are useful for polymer manufacture. The carbonylation products are useful as hydroxycarboxylic acids for polymer preparation, etc.

ACCESSION NUMBER: 2003:472541 CAPLUS

DOCUMENT NUMBER: 139:54560

TITLE: Catalytic carbonylation of three and four membered heterocycles

INVENTOR(S): Coates, Geoffrey W.; Getzler, Yutan D. Y. L.; Wolczanski, Peter; Mahadevan, Viswanath

PATENT ASSIGNEE(S): Cornell Research Foundation, Inc., USA

SOURCE: PCT Int. Appl., 54 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|------|----------|-----------------|------------|
| WO 2003050154 | A2 | 20030619 | WO 2002-US36140 | 20021202 |
| WO 2003050154 | A3 | 20031120 | | |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DE, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, JP, KE, KG, KP, KR, KE, LC, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MO, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW | | | | |
| RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GW, GO, GW, ML, MR, NE, SN, TD, TG | | | | |
| AU 2002356929 | A1 | 20030623 | AU 2002-356929 | 20021202 |
| US 2003162961 | A1 | 20030828 | US 2002-307520 | 20021202 |
| US 6852865 | B2 | 20050208 | | |
| EP 1461315 | A2 | 20040929 | EP 2002-804688 | 20021202 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, C2, EE, SK | | | | |
| JP 2005511753 | T | 20050428 | JP 2003-551177 | 20021202 |
| PRIORITY APPLN. INFO.: | | | US 2001-336170P | P 20011206 |
| | | | WO 2002-US36140 | W 20021202 |

OTHER SOURCE(S): CASREACT 139:54560; MARPAT 139:54560

L5 ANSWER 7 OF 12 CAPLUS COPYRIGHT 2007 ACS on STN

AB A palladium(II)-catalyzed hydroxycyclization-carbonylation -lactonization sequence with appropriate pent-4-ene-1,3-diois provides efficient access to the bicyclic γ-lactones, 5-n-butyl- and 5-n-hexyltetrahydrofuro[3,2-b]furan-2(3H)-ones in both racemic and enantiomeric forms. Some of the substrates pent-4-ene-1,3-diois of high enantiomeric excess (ee) have been derived from racemic terminal epoxides by hydrolytic kinetic resolution (HKR) using cobalt (III)-salen complexes. (92,12R)-(+) -Ricinoleic acid also serves as a "chiral pool" source of other pent-4-ene-1,3-diois. These syntheses and enantioselective gas chromatog. confirm the structures and absolute stereochem. of the lactones in some species of parasitic wasps (Hymenoptera: Braconidae). The highly abundant 5-n-hexyltetrahydrofuro[3,2-b]furan-2(3H)-one in Diachasmimorpha kraussii

and D. longicaudata is of high ee (>99%) with (3aR,5R,6aR) stereochem.

ACCESSION NUMBER: 2001:777088 CAPLUS

DOCUMENT NUMBER: 136:19971

TITLE: Synthesis and stereochemistry of some bicyclic γ-lactones from parasitic wasps (Hymenoptera: Braconidae). Utility of hydrolytic kinetic resolution of epoxides and palladium(II)-catalyzed hydroxycyclization-carbonylation-lactonization of Ena-diois

AUTHOR(S): Paddon-Jones, Gregory C.; McEwan, Christopher S.

P.:

Hayes, Patricia; Moore, Christopher J.; Konig, Wilfried A.; Kitching, William

COPARTNERS: Department of Chemistry, University of Queensland, Brisbane, Q. 4072, Australia

SOURCE: Journal of Organic Chemistry (2001), 66(22), 7487-7495

CODEN: JOCEAH; ISSN: 0022-3263

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 136:19971

REFERENCE COUNT: 41 THERE ARE 41 CITED REFERENCES AVAILABLE FOR THIS

FORMAT: RECORD. ALL CITATIONS AVAILABLE IN THE RE

L5 ANSWER 8 OF 12 CAPLUS COPYRIGHT 2007 ACS on STN

AB Direct incorporation of carbon monoxide into a heterocyclic ring and intramol. cyclocarbonylation are two useful strategies for the synthesis of lactams, lactones, and thiolactones by homogeneous catalysis. Excellent regio and stereoselectivity can be attained in many cases. Three- and four-membered ring heterocycles (e.g., aziridines, epoxides, azetidines, isocyanates, isothiocyanates) react with heterocumulenes (carbodiimides, isocyanates, isothiocyanates) in the presence of a palladium catalyst to form five- and six-membered ring heterocycles. Use of a chiral ligand in these reactions results in product formation in high enantiomeric excess.

ACCESSION NUMBER: 1998:530576 CAPLUS

TITLE: Metal catalyzed carbonylation and cycloaddition reactions.

AUTHOR(S): Alper, Howard

CORPORATE SOURCE: Department Chemistry, University Ottawa, Ottawa, ON, K1N6N5, Can.

SOURCE: Boston,

BOOK OF ABSTRACTS, 216TH ACS NATIONAL MEETING,

August 23-27 (1998), ORGN-213. American Chemical Society, Washington, D. C.

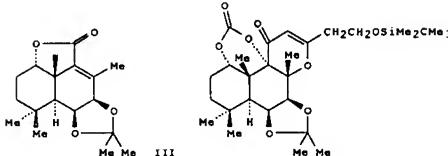
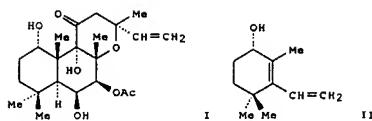
CODEN: 66KYA2

DOCUMENT TYPE: Conference; Meeting Abstract

LANGUAGE: English

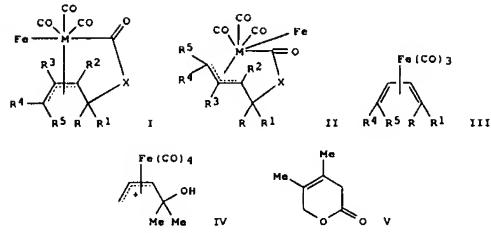
AB A review with 26 refs.
 ACCESSION NUMBER: 1988:630650 CAPLUS
 DOCUMENT NUMBER: 109:230650
 TITLE: Metal catalyzed carbonylation and oxidation-reduction reactions
 AUTHOR(S): Alper, Howard
 CORPORATE SOURCE: Dep. Chem., Univ. Ottawa, Ottawa, ON, K1N 9B4, Can.
 SOURCE: Pure and Applied Chemistry (1988), 60(1), 35-8
 CODEN: PACHAS; ISSN: 0033-4545
 DOCUMENT TYPE: Journal; General Review
 LANGUAGE: English

GI



AB (i)-Forskolin (I), a potent activator of adenylyl cyclase, was prepared from vinylcyclohexenol II and p-MeC₆H₄SO₂C.tplbond.CCO₂H via lactone III and pyranone IV.

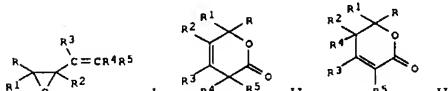
ACCESSION NUMBER: 1988:406761 CAPLUS
 DOCUMENT NUMBER: 109:6761
 TITLE: Total synthesis of (i)-forskolin
 AUTHOR(S): Corey, E. J.; Jardine, Paul da Silva; Rohloff, John C.
 CORPORATE SOURCE: Dep. Chem., Harvard Univ., Cambridge, MA, 02138, USA
 SOURCE: Journal of the American Chemical Society (1988), 110(11), 3672-3
 CODEN: JACSAT; ISSN: 0002-7863
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 109:6761



AB The transition metal-assisted carbonylation of vinyloxiranes to unsatd. δ -lactones was verified and studied mechanistically by use of organometallic model reactions. The light induced complexation of vinyloxiranes by Fe(CO)₅ was a multistep reaction which diastereoisomeric cis-(I) and trans-ferrelactones (II) ($R_1 = H$, Me; $X = O$) were formed. I and II ($X = O$, $R = R_1$; $R_4 = R_5 = H$, $R_2 = R_3 = H$) were characterized crystallog. and studied chemically concerning their reactions with nucleophiles and electrophiles. Reaction of II and III ($X = O$) with MeNH₂ gave ferrelactams I and II ($X' = NH_2$) by migration of the allyl group and inversion at C-1 as well as C-4, indicating an attack of amine at the exo-position of C-4. The reaction of ferrelactones with OH⁻ gave CO₃²⁻ and diene complexes III ($R = R_1, R_4, R_5 = H, Me$) with inversion at C-1 only, indicating that the reaction had been initiated by attack of HO⁻ at a terminal carbonyl group. On

electrophilic attack ferrelactones form allyl cations, e.g., IV by opening of the CO-O bond. Carbonylation of ferrelactones with CO in aprotic solvents gave good yields of unsatd. δ -lactones, e.g., V.

ACCESSION NUMBER: 1980:111134 CAPLUS
 DOCUMENT NUMBER: 92:111134
 TITLE: Organic syntheses using transition metal complexes. 8. Studies on the synthesis of saturated δ -lactones by cyclocarbonylation of vinyloxiranes with transition metal complexes
 AUTHOR(S): Aumann, Rudolf; Ring, Horst; Krueger, Carl; Goddard, R.
 CORPORATE SOURCE: Org.-Chem. Inst., Univ. Muenster, Muenster, D-4400, Fed. Rep. Ger.
 SOURCE: Chemische Berichte (1979), 112(11), 3644-71
 CODEN: CHBEAM; ISSN: 0009-2940
 DOCUMENT TYPE: Journal
 LANGUAGE: German
 OTHER SOURCE(S): CASREACT 92:111134



AB Vinyloxiranes I reacted with CO to give the lactones II in the presence of Rh catalysts and III with Fe or Co catalysts, with deoxygenation, polymerization, and isomerization to unsatd. open-chain ketones as side reactions. $R_1 =$ alkyl promoted lactone formation, whereas $R_1 = CO_2Me$ led to almost quant. deoxygenation. $R = R_3 =$ alkyl gave open-chain ketones. Thus, isoprene oxide reacted with CO in the presence of (1,5-cyclooctadiene-RhCl)₂ to give 75% II ($R = R_1 = R_3 = R_4 = R_5 = H$, $R_2 = Me$).

ACCESSION NUMBER: 1977:71855 CAPLUS
 DOCUMENT NUMBER: 86:71855
 TITLE: Organic syntheses with transition metal complexes. 5. δ -Lactones by carbonylation of vinyl oxiranes
 AUTHOR(S): Aumann, Rudolf; Ring, Horst
 CORPORATE SOURCE: Org. Chem. Inst., Univ. Muenster, Muenster, Fed. Rep. Ger.
 SOURCE: Angewandte Chemie (1977), 89(1), 47-8
 CODEN: ANCEDA; ISSN: 0044-8249
 DOCUMENT TYPE: Journal
 LANGUAGE: German

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